

Appl. No.: 10/700,167
Response dated July 18, 2006
Reply to Office Action of April 12, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 (cancelled).

Claim 2: A metalworking lubricant composition comprising:

- A) at least one lubricating oil; and
- B) at least one base-catalyzed branched reaction product comprising the following reactants:
 - a) at least one compound of formula I



wherein each X group is a halogen atom or one X group is a halogen atom and two X groups represent an epoxy oxygen atom, which is attached to two adjacent carbon atoms in the R¹ group to form an epoxy group, and R¹ is an alkanetriyl group containing from 3 to 10 carbon atoms; and

- b) at least one compound having the formula II



wherein R² is a substituted or unsubstituted, saturated or unsaturated, organic group having from 1 to 36 carbon atoms; X is -O-, -S-, or -NR³- where R³ is hydrocarbon or a C₁-C₁₈ alkyl group; each AO group is independently an ethyleneoxy, 1,2-propyleneoxy, or 1,2-butyleneoxy group, n is a number from 0 to

200; and Y is hydrogen, or Y can be a mercapto group or an amino group or a C₁-C₆ alkyl amino group in place of a terminal -OH group, provided that when Y is mercapto or an amino group or a C₁-C₆ alkyl amino group, n is at least 1;
wherein the mole ratio of the linking compound a) to b) is from 0.1:1 to 5:1 wherein the metal working lubricant composition has reduced foaming properties in aqueous and nonaqueous metal working formulations and improved lubricating and extreme pressure properties.

Claim 3: An aqueous electroplating composition comprising :

- A) at least one metal or metalloid; and
- B) at least one base-catalyzed reaction product comprising the following reactants:

- a) at least one compound of formula I



wherein each X group is a halogen atom or one X group is a halogen atom and two X groups represent an epoxy oxygen atom, which is attached to two adjacent carbon atoms in the R¹ group to form an epoxy group, and R¹ is an alkanethyl group containing from 3 to 10 carbon atoms; and

- b) at least one compound having the formula II



wherein R² is a substituted or unsubstituted, saturated or unsaturated, organic group having from 1 to 36 carbon atoms; X is -O-, -S-, or -NR³- where R³ is hydrogen or a C₁-C₁₈ alkyl group; each AO group is independently an ethyleneoxy, 1,2-

Appl. No.: 10/700,167
Response dated July 18, 2006
Reply to Office Action of April 12, 2006

propyleneoxy, or 1,2-butyleneoxy group, n is a number from 0 to 200; and Y is hydrogen, or Y can be a mercapto group or an amino group or a C₁-C₆ alkylamino group in place of a terminal -OH group, provided that when Y is mercapto or an amino group, or a C₁-C₆ alkylamino group, n is at least 1; wherein the mole ratio of component a) to b) is from 0.1:1 to 5:1, and wherein the base catalyzed reaction product is not epoxy functional and provides improved brightening and reduced foaming.